

In the Claims:

Claim 1. (Twice amended) A method of improving embryo implantation, the method comprising contacting an embryo with an effective amount of mammaliana purified recombinant heparanase having at least 95% homology to heparanase-SEQ ID NO:1 and implanting the embryo in a receptive uterus.

Claim 2. (Twice amended) The method of claim 1, wherein said mammalianrecombinant heparanase is a mature heparanase.

Claim 3. (Twice amended) The method of claim 1, wherein said mammalianrecombinant heparanase is a pro-heparanase, cleavable into mature heparanase.

Claim 4. (Twice amended) The method of claim 1, wherein contacting the embryo with an effective amount of mammaliansaid recombinant heparanase is in vitro.

Claim 5. (Twice amended) The method of claim 1, wherein contacting the embryo with an effective amount of mammaliansaid recombinant heparanase is in utero.

Claim 6.(Cancelled)

Claim 7. (Twice amended) A method of improving embryo implantation, the method comprising contacting a receptive uterus with an effective amount of mammaliana purified recombinant heparanase having at least 95% homology to -SEQ ID NO:1 and implanting the embryo in the receptive uterus.

Claim 8. (Twice amended) The method of claim 7, wherein said mammalianrecombinant heparanase is a mature heparanase.

Claim 9. (Twice amended) The method of claim 7, wherein said mammalianrecombinant heparanase is a pro-heparanase, cleavable into mature heparanase.

Claim 10.(Cancelled)

Claim 11. (Twice amended) The method of claim 7, wherein contacting the receptive uterus with the effective amount of mammaliansaid recombinant heparanase precedes implanting the embryo in the receptive uterus.

Claim 12. (Twice amended) The method of claim 7, wherein contacting the receptive uterus with the effective amount of mammaliansaid recombinant heparanase is concurrent to implanting the embryo in the receptive uterus.

Claim 13. (Twice amended) A method of improving embryo implantation, the method comprising contacting a receptive uterus with an effective amount of mammaliana purified recombinant heparanase having at least 95% homology to SEQ ID NO:1, contacting an embryo with an effective amount of mammaliansaid recombinant heparanase and implanting the embryo in the receptive uterus.

Claim 14. (Twice amended) The method of claim 13, wherein said mammalianrecombinant heparanase is a mature heparanase.

Claim 15. (Twice amended) The method of claim 13, wherein said mammalianrecombinant heparanase is a pro-heparanase, cleavable into mature heparanase.

Claim 16. (Twice amended) The method of claim 13, wherein contacting the embryo with an effective amount of mammalian said recombinant heparanase is in vitro.

Claim 17. (Twice amended) The method of claim 13, wherein contacting the

embryo with an effective amount of mammalian said recombinant heparanase is in utero.

Claim 18.(Cancelled)

Claim 19. (Twice amended) The method of claim 13, wherein contacting the receptive uterus with the effective amount of mammaliansaid recombinant heparanase precedes implanting the embryo in the receptive uterus.

Claim 20. (Twice amended) The method of claim 13, wherein contacting the receptive uterus with the effective amount of mammaliansaid recombinant heparanase is concurrent to implanting the embryo in the receptive uterus.

Claim 21. (Twice amended) A method of improving in vitro fertilization (IVF) embryo implantation, the method comprising contacting an embryo generated via IVF with an effective amount of mammaliana purified recombinant heparanase having at least 95% homology to SEQ ID NO:1 and implanting the embryo in a receptive uterus.

Claim 22. (Twice amended) The method of claim 21, wherein said mammalianrecombinant heparanase is a mature heparanase.

Claim 23. (Twice amended) The method of claim 21, wherein said mammalianrecombinant heparanase is a pro-heparanase, cleavable into mature heparanase.

Claim 24. (Twice amended) The method of claim 21, wherein contacting the embryo generated via IVF with an effective amount of mammaliansaid recombinant heparanase is in vitro.

Claim 25. (Twice amended) The method of claim 21, wherein contacting the embryo generated via IVF with an effective amount of mammaliansaid recombinant

heparanase is in utero.

Claim 26. (Twice amended) A method of improving IVF embryo implantation, the method comprising contacting a receptive uterus with an effective amount of mammaliana purified recombinant heparanase having at least 95% homology to SEQ ID NO:1 and implanting the embryo generated via IVF in the receptive uterus.

Claim 27. (Twice amended) The method of claim 26, wherein said mammalianrecombinant heparanase is a mature heparanase.

Claim 28. (Twice amended) The method of claim 26, wherein said mammalianrecombinant heparanase is a pro-heparanase, cleavable into mature heparanase.

Claim 29. (Twice amended) The method of claim 26, wherein contacting the receptive uterus with the effective amount of mammaliansaid recombinant heparanase precedes implanting the embryo generated via IVF in the receptive uterus.

Claim 30. (Twice amended) The method of claim 26, wherein contacting the receptive uterus with the effective amount of mammaliansaid recombinant heparanase is concurrent to implanting the embryo generated via IVF in the receptive uterus.

Claim 31. (Twice amended) A method of improving IVF embryo implantation, the method comprising contacting a receptive uterus with an effective amount of mammaliana purified recombinant heparanase having at least 95% homology to SEQ ID NO:1, contacting an embryo generated via IVF with an effective amount of mammaliansaid recombinant heparanase and implanting the embryo generated via IVF in the receptive uterus.

Claim 32. (Twice amended) The method of claim 31, wherein said

mammalian recombinant heparanase is a mature heparanase.

Claim 33. (Twice amended) The method of claim 31, wherein said mammalian recombinant heparanase is a pro-heparanase, cleavable into mature heparanase.

Claim 34. (Twice amended) The method of claim 31, wherein contacting the embryo generated via IVF with an effective amount of mammaliansaid recombinant heparanase is in vitro.

Claim 35. (Twice amended) The method of claim 31, wherein contacting the embryo generated via IVF with an effective amount of mammaliansaid recombinant heparanase is in utero.

Claim 36. (Twice amended) The method of claim 31, wherein contacting the receptive uterus with the effective amount of mammaliansaid recombinant heparanase precedes implanting the embryo generated via IVF in the receptive uterus.

Claim 37. (Twice amended) The method of claim 31, wherein contacting the receptive uterus with the effective amount of mammaliansaid recombinant heparanase is concurrent to implanting the embryo generated via IVF in the receptive uterus.